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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,099	02/05/2004	James L. Lambert	9022-43	3281
20792 7590 06/04/2008 MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627				
EXAMINER ROZANSKI, MICHAEL T				
ART UNIT		PAPER NUMBER		
3768				
MAIL DATE		DELIVERY MODE		
06/04/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/773,099

**Applicant(s)**

LAMBERT ET AL.

**Examiner**

MICHAEL ROZANSKI

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 and 51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

The drawings were received on 2/18/08. These drawings are accepted.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-26 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClane et al (US 7,039,452) in view of Gitelson et al ("Assessing Carotenoid Content in Plant Leaves with Reflectance Spectroscopy" Photochemistry and Photobiology, 2002, 75(3): 272-281) and further in view of Li (US 6,014,214).

McClane et al disclose an apparatus 10 for assessing an individual's risk of developing age-related macular degeneration (AMD). The apparatus measures and images carotenoids using non-invasive, *in vivo*, resonant Raman spectroscopy, which uses a blue or infrared excitation light (col. 5, lines 24-38). Lutein and zeaxanthin are carotenoids that exhibit Raman scattering and are characterized with a carbon backbone with alternating double carbon-carbon and single carbon-carbon bonds (col. 4, lines 24-45). Once the absorption and/or reflectance spectrum is received from the multiple layers of the retina, an image representing the spatial distribution and concentration level of one or more carotenoids is produced. The image can be

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displayed as grayscale or pseudo color 'en face' maps and/or as topographic representations that covers a region about 2-5 mm wide and is at least 1000 data pixels (col. 6, lines 25-45; figures 4-8). McClane et al do not disclose using a reflectance-type device to measure carotenoids.

Gitelson et al teach assessing carotenoid content in plant leaves with reflectance spectroscopy, wherein carotenoids are represented by carotenes and xanthophylls (pg 272, col 1). Adaxial reflectance spectra of the leaves were taken in a spectral range between 400 and 800 nm with a spectral resolution of 2 nm (pg 273, col 2). The concentration of carotenoids was measured for different types of leaves (see Figure 1, 2). Therefore, Gitelson et al teach measuring carotenoid content via reflectance, but does not teach OCT.

Li teaches that OCT, which uses reflectance for imaging and mapping with a low coherent source, is used to investigate retinal tissues (col 1, lines 12-20). It would have been obvious to the skilled artisan to modify McClane et al, to use reflectance-type imaging such as OCT as taught by Gitelson et al/Li, because such would permit improved cross sectional optical analysis of the biological tissue.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-26 and 51 have been considered but are moot in view of the new ground(s) of rejection.

In addition, the previous claim objections have been withdrawn in view of Applicant remarks. This action is made Non-Final.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL ROZANSKI whose telephone number is (571)272-1648. The examiner can normally be reached on Monday - Friday, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric F Winakur/  
Primary Examiner, Art Unit 3768

MR